Ms. Regina M. Keeney
Chief of the International Bureau
Federal Communications Commission
Washington, D.C. 20554

Dear Ms. Keeney:

NTIA, on the behalf of the Executive Branch Agencies, has developed and approved additional U.S. Preliminary Views. Our Radio Conference Subcommittee drafted preliminary view for agenda items 1.2, 1.3, 1.6.1, and 1.13. Three preliminary views concern agenda item 1.6.1. The RCS also reviewed and revised (using redline/strikeout) preliminary views drafted by the FCC WAC (FCC Public Notice DA 98-1044, June 3, 1998) that address agenda items agenda items 1.11, and 2. Karl Nebbia from my staff will contact Damon Ladson to coordinate FCC/NTIA agreement on these views.

Sincerely,

William T. Hatch
Acting Associate Administrator
Office of Spectrum Management

UNITED STATES

DRAFT PRELIMINARY VIEWS ON WRC-00

WRC-00 AGENDA ITEM 1.2: *to finalize remaining issues in the review of Appendix S3 to the Radio Regulations with respect to spurious emissions for space services, taking into account Recommendation 66 (Rev. WRC-97) and the decisions of WRC-97 adoption of new values, due to take effect at a future time, of spurious emissions for space services;*

ISSUE: Revision of Appendix S3, spurious emissions for space services and radar systems.

BACKGROUND: Recommendation No. 66 (Rev. WRC-97) directs the ITU-R to submit a report to WRC-99[00] with a view to finalizing the space services spurious emissions limits in Appendix S3 of the Radio Regulations. The current RR text lists space services spurious emissions as design objectives that will become limits if not changed by the next WRC. Current studies show that these limits are achievable.

Furthermore, modifications to Appendix S3 made at WRC-97 could be wrongly interpreted in two provisions pertaining to radar systems. First, the limits on systems installed on or before 1 January 2003 were not intended to apply to radars; however, the wording in Section 1, paragraph 6 could be read as applying the limits to radars. Second, Section 2, paragraph 8 indicates that the e.i.r.p. measurement method can be used when it is not possible to measure the power applied to the antenna transmission line. Because there are many radar systems where the antenna attenuates the spurious signals, measurement of the power applied to the antenna transmission line may be "possible" but not "appropriate." For this reason, common practice is to measure all radars using the e.i.r.p. method and should be indicated in the Appendix.

U.S. PRELIMINARY VIEW: The United States supports removal of the "design objectives" designation from the space services spurious emissions limits given that the limits and reference bandwidth remain as agreed at WRC-97.

Furthermore, it supports modification to Appendix S3 to make it clear that no limits apply to radar systems installed on or before 1 January 2003 and that the e.i.r.p. method can be used on radars.

WRC-00 AGENDA ITEM 1.3: *to consider the results of ITU-R studies in respect of Appendix S7/28 on the method for the determination of the coordination area around an earth station in frequency bands shared among space services and terrestrial radiocommunication services, and to take the appropriate decision to revise this Appendix;*

ISSUE: The revision of Appendix S7.

BACKGROUND: Appendix S7 provides the method for determining the coordination area around an earth station. The appendix has not been updated in many years, though changes have been made to the associated recommendations (ITU-R Recommendations IS. 847-850). Work in TG1/6 is aimed at 1) updating the system characteristics that are used; 2) considering new approaches to handling new propagation information and other probabilistic factors; and 3) extending the frequency range to which the recommendations apply. In the past, propagation and probabilistic factors have been lumped together. TG1/6 is currently considering methods to separate these aspects. Though Appendix S7 has been successfully used for years, the separation of the factors may lead to rejection of the probabilistic component and lead unnecessarily to larger coordination areas.

U.S. PRELIMINARY VIEW: The United States supports the updating of Appendix S7 using the improved techniques given in ITU-R Recommendations IS. 847-850 as a basis, by using updated system characteristics, and by extending the frequency range upward. However, the United States is concerned about the progress of the work of TG1/6 in certain areas. New approaches for dealing with propagation and other probabilistic components may lead to an unnecessary increase in the size of coordination areas, the existing method having produced useful results for many years. Also, the United States has not seen a benefit to extending the frequency range below 1000 MHz.

While, in general, the United States supports the use of ITU-R Recommendation 847 to update Appendix S7, the recommendation, in the context of transportable equipment, may not be properly applied near land boundaries between administrations.

WRC-00 Agenda Item 1.6.1: *review of spectrum and regulatory issues for advanced mobile applications in the context of IMT-2000, noting that there is an urgent need to provide more spectrum for the terrestrial component of such applications and that priority should be given to terrestrial mobile spectrum needs, and adjustments to the Table of Frequency Allocations as necessary;*

ISSUE: Possible bands for the allocation of additional spectrum for the terrestrial component of IMT-2000.

BACKGROUND: IMT-2000 defines 3rd generation wireless systems providing worldwide telecommunications services regardless of location, network, or terminal used. Integrated terrestrial mobile and mobile satellite systems will provide different types of wireless access on a global basis. Key features are high degree of commonality of design, compatibility of services, high quality, small pocket terminal with worldwide roaming capability, and capability for multi-media applications.

The bands 1885-2025/2110-2200 MHz are intended for use worldwide by administrations wishing to implement IMT-2000 (RR S5.388 and RES 212 (Rev. WRC-97), around the year 2000. Impacting the common spectrum available worldwide for IMT-2000 is the existing use of the IMT-2000 bands by

fixed, mobile and mobile-satellite services.

Recommendation ITU-R M.687-2 states that terrestrial IMT-2000 may be able to share band allocations with fixed and possibly other services only where there is suitable geographic separation between services, or where neither service requires the total allocation bandwidth. This recommendation also points out that sharing is not feasible with the space science or radio astronomy services.

Contributions to the March 1998 TG8/1 meeting indicate some interest in the following bands as extension bands for the terrestrial component: 470-866 MHz, 869-915 MHz, 925-960 MHz, 1350-1400 MHz, 1427-1527 MHz, 1668-1690 MHz, 1710-1785 MHz, 1805-1920 MHz, 1945-1980 MHz, 2025-2110 MHz, 2200-2300 MHz, 2360-2670 MHz and 2700-3400 MHz.

PRELIMINARY VIEW: Additional spectrum required (if demonstrated) for IMT-2000 may be fulfilled in existing fixed and mobile bands currently used for cellular, personal communication system (PCS), commercial mobile radio service (CMRS) as an evolutionary process. The U.S. supports regulatory flexibility to permit the migration from pre-IMT-2000 systems to IMT-2000. The U.S. opposes allocations for bands where radiolocation, radionavigation (including aeronautical radionavigation), radionavigation-satellite, space services and passive services are primary or secondary, given that there exists a general consensus that IMT-2000 will not be able to share with these services and TG8/1 has no plans for performing sharing studies. Furthermore, the U.S. opposes band segmentation and refarming of bands where there are existing services.

WRC-00 Agenda Item 1.6.1: *review of spectrum and regulatory issues for advanced mobile applications in the context of IMT-2000, noting that there is an urgent need to provide more spectrum for the terrestrial component of such applications and that priority should be given to terrestrial mobile spectrum needs, and adjustments to the Table of Frequency Allocations as necessary;*

ISSUE: Possible bands for allocation of additional spectrum for the satellite component of IMT-2000.

BACKGROUND: IMT-2000 defines 3rd generation wireless systems providing worldwide telecommunications services regardless of location, network, or terminal used. Integrated terrestrial mobile and mobile satellite systems will provide different types of wireless access on a global basis. Key features are high degree of commonality of design, compatibility of services, high quality, small pocket terminal with worldwide roaming capability, and capability for multi-media applications.

The bands 1885-2025/2110-2200 MHz are intended for use worldwide by administrations wishing to implement IMT-2000 (RR S5.388 and RES 212 (Rev. WRC-97), around the year 2000. The portions 1980-2010/2170-2200 MHz are allocated to MSS worldwide, potentially for the satellite component of IMT-2000 (RR S5.389A). Internationally, non-IMT-2000 MSS systems are likely to use these MSS allocations thereby reducing the amount of spectrum available on a worldwide basis for the satellite component.

Contributions to the March 1998 TG8/1 meeting indicate some interest in the following bands as extension bands for the satellite component: 1525-1559/1626.5-1660.5 MHz, 1610-1626.5/2483.5-2500

MHz, 1559-1567/part of 1675-1690 MHz, 1660.5-1668.4 MHz and 2500-2535/2655-2690 MHz. Some of these bands are already allocated to MSS.

PRELIMINARY VIEW: Additional spectrum requirements (if demonstrated) for the satellite component of IMT-2000 may be fulfilled in the existing MSS allocations around 1-3 GHz, taking into account the spectrum requirement for other types of MSS services. The U.S. opposes allocations for bands where radiolocation, radionavigation (including aeronautical radionavigation), radionavigation-satellite, space services and passive services are primary or secondary, given that there exists a general consensus that IMT-2000 will not be able to share with these services and TG8/1 has no plans for performing sharing studies. However, the U.S. view regarding the 1559-1567 MHz band is stated in the preliminary view for Agenda Item 1.9. Furthermore, the U.S. opposes band segmentation and refarming of bands where there are existing services.

WRC-00 Agenda Item 1.6.1: *review of spectrum and regulatory issues for advanced mobile applications in the context of IMT-2000, noting that there is an urgent need to provide more spectrum for the terrestrial component of such applications and that priority should be given to terrestrial mobile spectrum needs, and adjustments to the Table of Frequency Allocations as necessary;*

ISSUE: Additional spectrum requirements for the terrestrial and satellite components of IMT-2000.

BACKGROUND: IMT-2000 defines 3rd generation wireless systems providing worldwide telecommunications services regardless of location, network, or terminal used. Integrated terrestrial mobile and mobile satellite systems will provide different types of wireless access on a global basis. Key features are high degree of commonality of design, compatibility of services, high quality, small pocket terminal with worldwide roaming capability, and capability for multi-media applications.

WARC-92 identified 240 MHz for worldwide use by Administrations wishing to implement IMT-2000 (RR S5.388 and RES 212 (Rev. WRC-97), around the year 2000. 2x30 MHz of that was allocated to MSS worldwide, potentially for the satellite component of IMT-2000 (RR S5.389A). Existing fixed, mobile and mobile satellite services use portions of the bands identified for IMT-2000 implementation, thus impacting the common spectrum available worldwide for IMT-2000.

Contributions to the TG8/1 April meeting indicate a requirement for additional worldwide and regional spectrum (Europe-Terrestrial 120 MHz). In the U.S., a 1994 PCIA survey estimated 235 MHz of additional spectrum. The U.S. contribution, a 1998 PCIA survey, was used by TG8/1 to develop an example calculation of additional spectrum required for an ITU-R Draft New Recommendation. The U.S. estimates for the year 2010 could reach 250 MHz, for total of around 500 MHz required for IMT-2000. In a similar draft new recommendation on satellite spectrum requirements, an example based on U.S. traffic data in year 2010 estimates 2x33 MHz of additional spectrum.

PRELIMINARY VIEW: If the need for additional spectrum for IMT-2000 is demonstrated, the U.S. may support some additional spectrum for the 2005-2010 timeframe, amount to be determined and subject to appropriate sharing studies.

WRC-00 Agenda Item 1.11: *to consider constraints on existing allocations and to consider additional allocations on a worldwide basis for the non-geostationary (non-GSO) MSS below 1 GHz, taking into account the results of ITU-R studies conducted in response to Resolutions No.* ***214*** ***(Rev.WRC-97)*** *and* ***219*** ***(WRC-97);*** ~~Resolutions 214, 219 and 728 (WRC-97) -- *To consider constraints on existing allocations and additional allocations on a world-wide basis for the non-GSO/MSS below 1 GHz. (WAC/024(22.05.98))*~~

ISSUE: Allocation below 1 GHz to NGSO MSS downlinks at 405-406 MHz.

BACKGROUND: At WRC-97, the U.S., World Meteorological Organization (WMO), and other countries drafted Resolution 219 (WRC-97) calling for a study of the possible allocation of the 405-406 MHz band for MSS at WRC-99. The 401-406 MHz band is currently allocated to the Meteorological Aids Service. ITU-R studies are ongoing to determine the feasibility and cost of transitioning the Meteorological Aids Service out of the 405-406 MHz band.

PRELIMINARY VIEW: The U.S. ~~should pursue~~is considering an allocation in the NVNG MSS in the 405-406 MHz band pending the results of ITU-R studies. A possible transition plan and a date by which MetAids could migrate from the 405-406 MHz and NVNG MSS operations could commence are yet to be established. In order to protect SARSAT (406-406.1 MHz) and Radio Astronomy (406.1-410 MHz) bands from NVNG MSS out-of-band emissions, a 30 to 50 kHz guard band near the upper band edge may be required.

WRC-00 Agenda Item 1.11: *to consider constraints on existing allocations and to consider additional allocations on a worldwide basis for the non-geostationary (non-GSO) MSS below 1 GHz, taking into account the results of ITU-R studies conducted in response to Resolutions No.* ***214*** ***(Rev.WRC-97)*** *and* ***219*** ***(WRC-97);*** ~~Resolutions 214 and 219 (WRC-97) -- *To consider constraints on existing allocations and additional allocations on a world-wide basis for the non-GSO/MSS below 1 GHz. (WAC/025(22.05.98))*~~

ISSUE: Additional ~~Allocations~~ allocations to NVNG MSS in the 450-470 MHz band.

BACKGROUND: The position of the incumbents in this band is that the NVNG MSS industry did not adequately demonstrate that sharing in the 450-470 MHz band is possible. It is the view of the NVNG MSS industry that the provision of land mobile systems' technical parameters and participation of incumbent users is required to demonstrate that sharing is feasible.

PRELIMINARY VIEW: The feasibility of MSS and land mobile sharing in the 450-470 MHz band requires further study. Based on the results of studies being conducted, the U.S. will determine whether to pursue MSS allocations in this band.

WRC-00 Agenda Item 1.13: *on the basis of results of the studies in accordance with Resolutions 130(WRC-97), 131(WRC-97), and 538(WRC-97):*

1.13.1: *to review and, if appropriate, revise the power limits appearing in Articles **S21** and **S22** in relation to the sharing conditions among non-GSO FSS, GSO FSS, GSO broadcasting-satellite service(BSS), space sciences and terrestrial services, to ensure the feasibility of these power limits and that these limits do not impose undue constraints on the development of these systems and services;*

1.13.2: *to consider the inclusion in other frequency bands of similar limits in Articles **S21** and **S22**, or other regulatory approaches to be applied in relation to sharing situations;*

ISSUE: Regulatory and technical provisions to enable sharing among non-GSO FSS, GSO FSS, GSO BSS, space sciences and terrestrial services.

BACKGROUND: WRC-97 adopted provisional power flux density limits in certain frequency bands which would apply to non-GSO FSS systems to protect GSO FSS networks, terrestrial services, and GSO BSS networks. Resolution 130 (WRC-97), *Use of Non-Geostationary Systems in the Fixed-Satellite Service in Certain Frequency Bands* and Article S22.2 of the Radio Regulations contain limits corresponding to an interference level caused by one NGSO system in the frequency bands 10.7-12.75 GHz, 17.8-18.6 GHz, and 19.7-20.2 GHz. Resolution 131 (WRC-97), *Power Flux-Density Limits Applicable to Non-GSO FSS Systems for Protection of Terrestrial Services in the Bands 10.7-12.75 GHz and 17.7-19.3 GHz*, and Article S21 contain limits to protect terrestrial service. Resolution 538, *Use of the Frequency Bands Covered by Appendices 30 and 30A by Non-GSO Systems in the Fixed-Satellite Service*, and Article S22 contain limits corresponding to an permissible levels of interference level from a NGSO system into a GSO BSS network. These limits are provisional, subject to review by ITU-R and confirmation by WRC-00.

PRELIMINARY VIEW:

The U.S. continues to review the provisional power limits with the intent of protecting the GSO FSS, GSO BSS, space sciences, and terrestrial services while allowing the introduction of NGSO FSS systems.

There will be a need for an alternative approach to facilitate sharing in some specific situations. The provisional epfd limits and associated time allowances do not adequately protect existing GSO FSS networks with large earth station antennas (large earth station antennas will be defined as a result of technical work within the ITU-R). The U.S. favors coordination between NGSO FSS networks and these GSO FSS networks.

Earth stations operating in the 13.75-14.0 GHz band are technically constrained by S5.502 (minimum size of 4.5 meters; e.i.r.p. between 68 and 85 dBW), S5.503 (e.i.r.p. density in the band 13.772-13.778 MHz), and S5.503A (FSS shall not cause harmful interference to NGSO space stations in the space research and Earth exploration-satellite services until January 1, 2000). In addition, there are ITU-R Recommendations (e.g., ITU-R S.1068 (Fixed-satellite service and radiolocation/radionavigation services sharing in the band 13.75-14.0 GHz) and ITU-R SA.1071 (Use of the 13.75 to 14.0 GHz band by the space science services and the fixed-satellite service))

that describe sharing situations with the fixed-satellite service, including recommended limitations on the FSS. These footnotes and recommendations will have to continue to be applied to both GSO and NGSO systems operating in the band.

Characteristics of radars currently operating in the bands 13.75-14.0 GHz have been examined. Radars operating in the 13.75-14.0 GHz band employ e.i.r.p. values of up to 79 dBW. Interference from these radiolocation stations to NGSO FSS networks would appear to be probable and sharing may not be feasible.

Characteristics of radars currently operating in the band 17.3-17.7 GHz have been examined. Radars operating in the band 17.3-17.7 GHz employ e.i.r.p. values up to 115 dBW. Sharing was found to be feasible with GSO FSS systems (Earth-to-space) if the radiolocation stations limit their emissions toward the geostationary orbit. Sharing would not appear to be feasible between radiolocation stations and NGSO FSS networks.

Sharing with satellite systems in quasi-geostationary satellite orbit needs to be considered within this agenda item.

WRC-99 Agenda Item 2: *to examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations which have been communicated by the 1999 [2000] Radiocommunication Assembly, in accordance with Resolution **28 (WRC-95)**; and decide whether or not to update the corresponding references in the Radio Regulations, in accordance with principles contained in the Annex to Resolution **27 (Rev.WRC-97)**;*~~Resolution 27 (WRC-97) - *To examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations which have been communicated by the 1999 Radiocommunication Assembly, in accordance with Resolution 28 (WRC-95); and decide whether or not to update the corresponding references in the Radio Regulations. (WAC/026(22.05.98))*~~

BACKGROUND: A number of provisions of the Radio Regulations make reference to the ITU-R Recommendations. As the ITU-R Recommendations are updated, it is necessary to review the Radio Regulations to see if these references should be continued.

PRELIMINARY VIEW: The U.S. has examined every reference to an ITU-R Recommendation within the Radio Regulations. ~~Our preliminary view is that, i~~In each case, action is contemplated which will conclude the effort, under way since the Voluntary Group of Experts, to use incorporation by reference wherever ~~it makes sense~~the provision is mandatory and the specific recommendation version is cited.